Applying Painter's Tape to an *Ender 3's* Print Bed

This document provides instructions for applying painter's tape to the print bed of the Creality *Ender 3* to help PLA filament stick to the bed (i.e. improve "bed adhesion").

These instructions are for those learning to 3D print and experiencing difficulty getting their filament to stick (i.e. "adhere") to their print bed.

These instructions may not be for advanced users: If completing prints successfully is not a concern, other solutions may be better suited to your application.

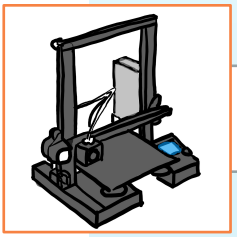
This task requires
10-15
minutes to complete.

CAUTION

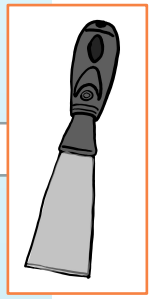
Take care when applying the tape to a warmed bed: While it should not be scalding hot, it can burn with extended contact. Avoid contacting it directly by using the tape or the print scraper as a barrier against the heat.

To avoid instantaneous burns, ensure the extruder is COMPLETELY COOL before starting the process.

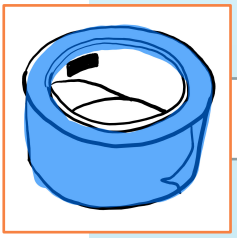
Items List:



Creality Ender 3,
Ender 3 Pro,
Ender 3 v2



Print Scraper

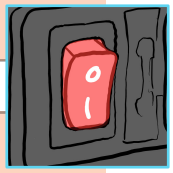


Scotch 3M Painter's Tape #2090

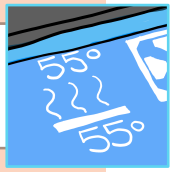
Scissors

Before you start:

Printer is powered on.



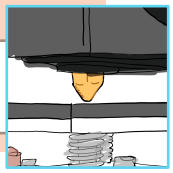
Bed is preheated to the desired print temperature.



Extruder is cool, and set to 0°C.

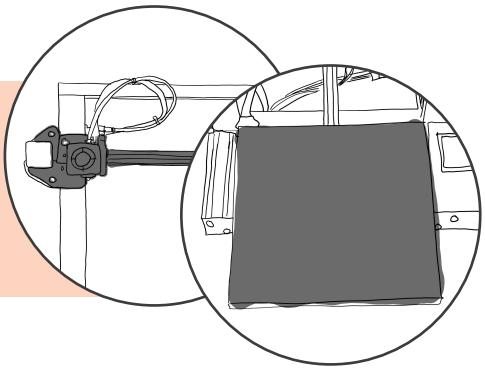
Print bed is reasonably level.

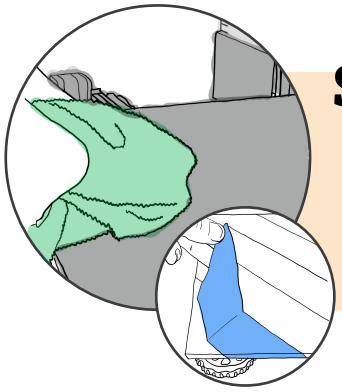
`Auto-Home` function is complete.



Step 1: Prep the Axes

In the `Prepare` menu, navigate to `Move Axis` and raise the Z-axis to about 200 mm, then fully extend the Y-axis to 235 mm.





Step 2: Prep the Bed

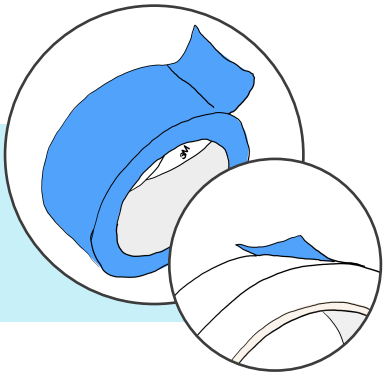
Remove any debris with a microfiber cloth. A paper or fabric towel can substitute, but it will leave excess fibers.

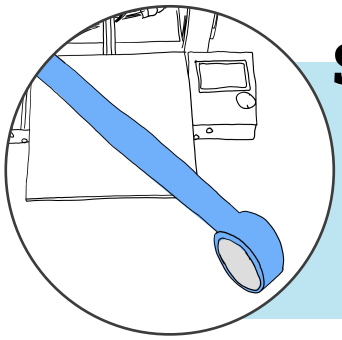
After following this procedure the first time, this step will instead be: Remove any tape that it is worn out.

Step 3: Peel the Tape

Peel the beginning of the tape from the roll

At the end of the process, you can fold over a small amount of tape to make this easier in the future.





Step 4: Size the First Length

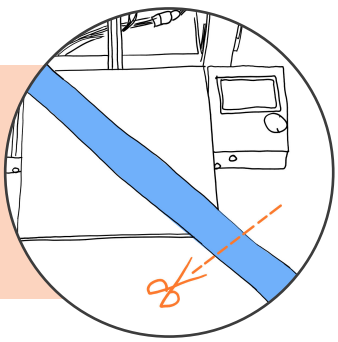
Peel a length of tape for the middle strip, longer than the maximum diagonal length of the bed (as shown in the sketch).

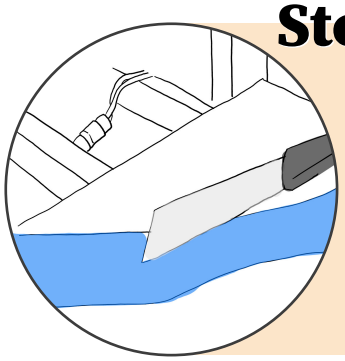
I tape my bed diagonally thanks to Desi Quintans of desiquintans.com

Step 5: Cut the First Length

Lay the strip diagonally across the bed, holding the roll of tape in your right hand.

Cut the strip from the roll with the scissors in your left hand, as shown in the sketch:



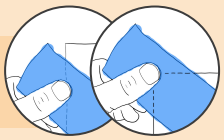


Step 6: Position the First Length

With one hand on each side of the strip, lift up and reposition the strip to be centered on the bed.

Use the print scraper to lay it flat from back to front.

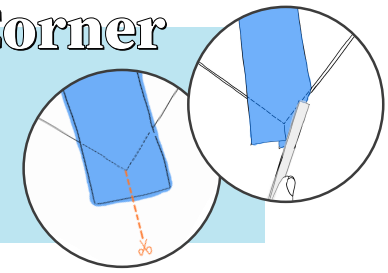
To easily center the strip, feel for the corners of the bed under your thumbs.



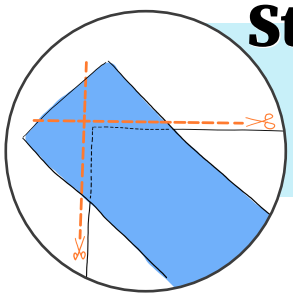
Step 7: Trim & Fold, Front Corner

Trim and fold the front corner as shown, using the scissors to trim and the print scraper to smooth.

Pinch the two sides together after folding.



Step 8: Trim & Fold, Back Corner

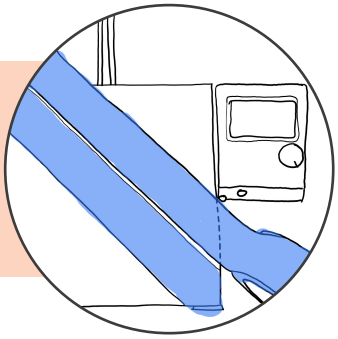


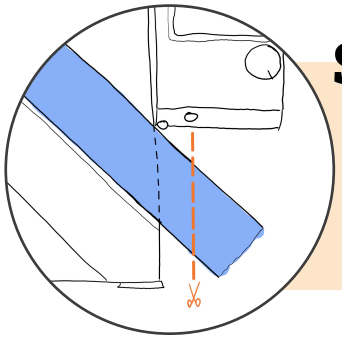
At the back corner of the bed, trim the strip to accommodate the heat bed's wiring, then trim and fold over the lefthand side of this corner.

Step 9: Size the Next Length

Peel the next strip of tape, again with overhang on either side of the bed.

Lay the strip lightly across the across the bed a few mm back from the middle strip.





Step 10: Cut the Next Length

Hold the roll of tape in your right hand, and cut the strip with the scissors using your left hand.

The remaining strips can be cut parallel to the bed.

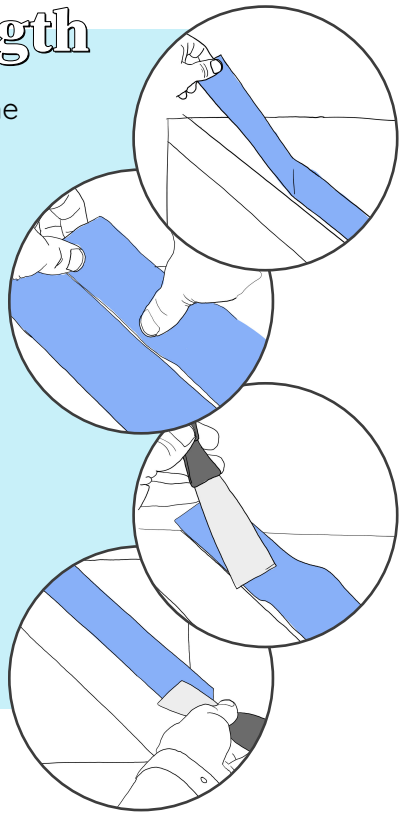
Step 11: Align the Next Length

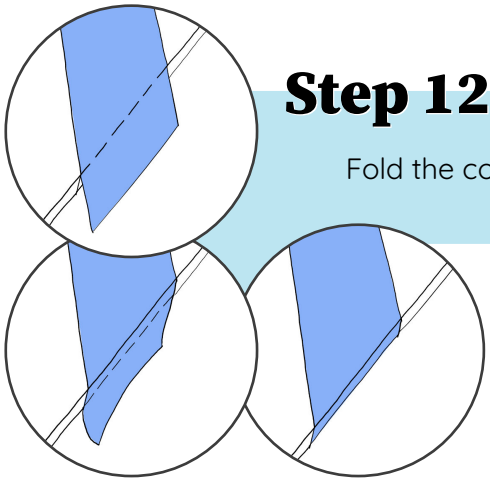
Peel an end of the new strip up off the bed, and align the new strip with the one next to it.

Place the scraper across the new strip to “save your progress” and peel the rest of the strip up off the bed from the right hand side.

Slide the scraper slowly, using it to press the down the tape. Meanwhile, keep the gap between the two strips uniform until you reach the end of the bed.

You will improve at this step with further practice. Don’t worry about getting it perfect, and err with a gap instead of an overlap.



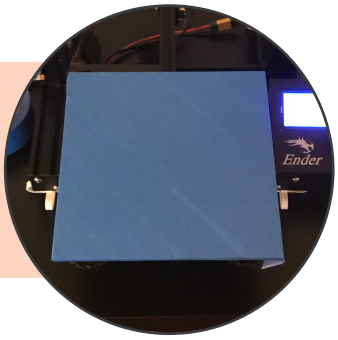


Step 12: Fold the Corners

Fold the corners up under the bed using the print scraper.

Step 13: Repeat to Complete

Repeat Steps 9-12 until the whole bed is covered with tape.



Be sure to level the bed before printing, even if it was level prior to taping, because the bed has been jostled and now has increased thickness.

As a final note, I invite you to check out my favorite 3D printing community on the web: Functional Print on reddit.com (18+)

Happy Printing! -David